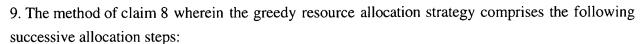
CLAIMS

What is claimed is:

- 1. A method for frequency-time sliced resource allocation in a wireless ATM network, the method comprising:
- a) receiving on a wireless signaling channel a request for access to a shared frequency-time sliced wireless medium;
- b) searching a channel matrix for a set of available frequency-time slots, wherein the channel matrix represents a time frame within the shared frequency-time sliced wireless medium; and
- c) allocating the set of available time-slots if the allocation does not violate a frequency switching constraint, and if the set of available frequency-time slots contains a number of slots no smaller than a requested number of slots.
- 2. The method of claim 1 wherein the searching step comprises searching a channel-chunk matrix comprising a list of contiguous chunks of available time slots in each frequency of the shared frequency-time sliced wireless medium.
- 3. The method of claim 1 wherein the searching step comprises searching for a set of available time slots such that all the available time slots are in a single frequency.
- 4. The method of claim 3 wherein the searching step comprises searching for a single contiguous set of available time slots.
- 5. The method of claim 4 wherein the size of the set of available slots is equal to the requested size.
- 6. The method of claim 4 wherein the size of the set of available slots is greater than the requested size.
- 7. The method of claim 1 wherein the searching step comprises searching for a set of available slots such that the available time slots are in multiple frequencies.
- 8. The method of claim 1 wherein the searching step comprises a greedy resource allocation strategy.



- a) searching for a single contiguous set of available time slots in a single frequency, where the size of the set of available slots is equal to the requested size;
- b) searching for a single contiguous set of available time slots in a single frequency, where the size of the set of available slots is greater than the requested size;
- c) searching for separate chunks of available time slots in a single frequency; and
- d) searching for separate chunks of available time slots in multiple frequencies.
- 10. The method of claim 9 wherein each allocation step comprises checking whether the allocation violates a frequency switching constraint.
- 11. The method of claim 1 further comprising combining the received request with other requests and prioritizing the combined requests.
- 12. The method of claim 1 further comprising updating the channel matrix and transmitting a notification of allocation to a user.